

Claims

1. An apparatus for detecting an animal (1) having a body part (2) and a head part (3), comprising:
- 5 an animal passage (4) extending in a transport direction (t), said passage being defined by a first enclosure member (5) and a second enclosure member (6), which members are arranged on a respective side of the passage (4) and extend substantially in parallel to said transport direction (t),
- 10 and
- a sensor device (7, 8), which is arranged to sense the animal (1) in the passage (4),
- characterised in that the sensor device (7, 8) is arranged to sense a parameter related to a cross-section size of the
- 15 animal (1) at a determined position (p) in the passage (4), and to produce a signal when the parameter fulfils a certain condition.
2. An apparatus according to claim 1, characterised in
- 20 that the sensor device (7, 8) is arranged to produce said signal when the value of said parameter indicates that the cross-section size of the animal (1) is less than a predetermined value at the determined position (p).
- 25 3. An apparatus according to any one of claims 1 and 2, characterised in that the parameter is related to the width of the animal (1) seen in a determined direction, wherein the sensor device (7, 8) is arranged to produce said signal when said parameter indicates that the width of the animal
- 30 (1) is less than a predetermined value at the determined position (p).
4. An apparatus according to claim 3, characterised in
- 35 that the determined direction is a substantially vertical direction.

5. An apparatus according to any one of claims 3 and 4, characterised in that the determined direction is a substantially vertically downward direction.
- 5 6. An apparatus according to claim 3, characterised in that the determined direction is a substantially horizontal direction.
7. An apparatus according to any one of the preceding  
10 claims, characterised in that the sensor device (7, 8) comprises at least a first sensor (7) and a second sensor (8), wherein the first sensor (7) is arranged to sense the presence of the animal (1) at a first point of the passage (4) and wherein the second sensor (8) is arranged to sense  
15 the presence of the animal (1) at a second point of the passage (4).
8. An apparatus according to claim 7, characterised in that the first point and the second point are both located  
20 at the determined position (p) with regard to the transport direction (t) but spaced apart from each other with a distance (d), wherein said distance (d) is larger than the width of the head part (3) but smaller than the width of the body part (2) of an animal (1) of a normal size to be guided  
25 through the animal passage (4).
9. An apparatus according to any one of claims 7 and 8, characterised in that the first point is located in the proximity of the first enclosure member (5) whereas the  
30 second point is located in the proximity of the second enclosure member (6).
10. An apparatus according to any one of claims 7 to 9, characterised in that the first sensor (7) and the second  
35 sensor (8) both are provided above the passage (4) to sense

the animal (1) passing below the respective first and second sensors (7, 8).

11. An apparatus according to any one of the preceding  
5 claims, characterised in that the apparatus comprises a control member (10) connected to the sensor device (7, 8).

12. An apparatus according to claim 11, characterised in  
10 that the control member (10) is arranged to count the animals (1) passing the animal passage (4) in response to the sensing of the sensor device (7, 8).

13. An apparatus according to any one of the preceding  
15 claims, characterised in that the apparatus comprises a gate device (14, 15; 18) arranged in the passage (4) to take one of an open position and a closed position.

14. An apparatus according to claims 11 and 13,  
20 characterised in that the control member (10) is arranged to control the position of the gate device (14, 15; 18) in response to the sensing of the sensor device (7, 8).

15. An apparatus according to any one of claims 13 and 14,  
25 characterised in that the gate device includes a gate (14, 15), which is provided in the proximity of the sensor device (7, 8) and arranged to close the passage (4).

16. An apparatus according to any one of claims 13 to 15,  
30 characterised in that the gate device includes a gate (18), which is provided in the proximity of the sensor device (7, 8) and arranged to close the passage (4) and open an exit passage (20) leading away from the passage (4).